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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES

1875 New Hope Street  
Norristown, PA 19401  
215 631-2411  
September 28, 1983



RECEIVED

SEP 30 1983

United States Steel Corporation  
Mail Station CM-08  
Fairless Hills, PA 19030

Attention: Mr. Ross E. Marteney  
Chief Engineer

BUCKS CO. DEPT. OF HEALTH

Re: Industrial Waste NPDES Permit PA 0013463  
United States Steel Corporation  
Falls Township  
Bucks County

Gentlemen:

Referenced permit is enclosed.

Please study the permit carefully and direct any questions to the Permits Section of this office at 215 631-2411.

With respect to the oil interception plant discharge (monitoring station 405), tetrachloroethylene and naphthalene are included because of their presence in most cold rolling wastewaters. We wish to call your attention to the absence of monitoring data for these organics and the possible need for a toxics reduction plan to achieve compliance.

Enclosed with the copies to Mr. Moniot is a Consent Order and Agreement relating to the sinter plant discharges. Both copies should be signed by the appropriate officials and returned to our office for execution.

Very truly yours,

*Joseph A. Feola*

JOSEPH A. FEOLA  
Regional Water Quality Manager

JAF:JR:sk

ENCLOSURES: Permit  
Master Discharge Monitoring Report  
Consent Order and Agreement

cc: J. David Moniot, Manager  
Environmental Control East  
EPA (3WM52)  
DRBC  
Bucks County Health Department  
Falls Township (Transmittal letter only)  
Permits & Compliance  
Re 30 KS52

## INTERNAL REVIEW AND RECOMMENDATIONS

For Department Use Only

## REGIONAL ENGINEER'S REVIEW

NAME OF APPLICANT United States Steel Corporation PROJECT LOCATION Falls Township Bucks County APPLICATION NUMBER PA0013463

BRIEF DESCRIPTION OF PROJECT: The application was submitted to renew the NPDES permit. The Fairless Works is a completely integrated steel mill producing a variety of end products including sheet, plate, bar, rod, wire, and pipe. There are a total of nine outfalls discharging various combinations of process water, contact and noncontact cooling water, and sanitary wastewater to the Delaware Estuary.

DISCUSSION (Use Additional Sheets If Necessary): On May 27, 1982 EPA promulgated technology based effluent guidelines for the Iron and Steel Manufacturing industry, thus allowing us to process the application. For those subcategories in which EPA held BCT limits in reserve (iron making and vacuum degassing), BCT was assumed as equal to BPT.

In response to various challenges of the Guidelines, EPA entered into a settlement agreement which will require EPA to amend the May 27, 1982 Regulation. This February 24, 1983 Settlement Agreement and the unpublished Guideline amendments have been taken into account in writing this permit.

(CONTINUED ON ATTACHED SHEET)

CURRENT ESTIMATE OF COMPLETION DATE OF PROJECT (Industrial Wastes Only)

## RECOMMENDATION AND ACTION

APPROVAL - RELEVANT LAWS, REGULATIONS, STANDARDS, AND POLICIES HAVE BEEN COMPLIED WITH:

Issue By Region	Issue By Central Office	Refuse	Signature	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>James B. Adolphi</i> REVIEWING ENGINEER	9-27-83
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Michael J. Hiller</i> FACILITIES ENGINEER	9/27/83
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Joseph A. Feola</i> REGIONAL ENGINEER	9/28/83
	<input type="checkbox"/>	<input type="checkbox"/>	DIV. FACILITIES ENGINEER	
	<input type="checkbox"/>	<input type="checkbox"/>	DIVISION DIRECTOR	
PERMIT CONDITIONS:		<input type="checkbox"/>	BUREAU DIRECTOR	

1. STANDARD

N/A

2. SPECIAL (Use Additional Sheets If Necessary) --

See page 6

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Falls Township, Bucks County  
PA0013463

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#### Discussion Continued:

A copy of the draft permit was sent to DRBC on September 22, 1982. As a result of DRBC's review changes were made to the BOD limits for the two STPs and to the metal limits for the sintering plant.

EPA designated the application for joint review and was sent an official draft permit on January 27, 1983. Prior to this a series of preliminary draft permits were sent to EPA and the applicant so that an official draft permit could be negotiated; therefore, no comments were received from EPA on the official draft.

The following is a discussion of each outfall:

#### Outfall 001

The discharge consists of 0.020 MGD of treated sewage from the American Can Company plant. The effluent limits are based on secondary treatment, and the discharge is expected to be in compliance.

#### Outfall 002

This is the east canal which has an average flow of 50.62 MGD, mostly noncontact cooling water. Process wastewaters are limited at three internal monitoring stations:

#### 102

Process water (7.06 MGD) from the rod mill's hot forming operation discharges to the east canal at this station. One set of effluent limits, which are the same as those used in the previous NPDES permit, are in effect from issuance through June 30, 1984. The concept of using effluent limits from the previous permit was discussed at a conference on Iron and Steel industry permits in Harrisburg on August 11, 1982 and was agreed to by Central Office. A second set of limits, based on BCT, are in effect from July 1984 through expiration. Compliance with both sets of limits is expected.

#### 202

This monitoring station carries 2.06 MGD of scrubber wastewater and contact cooling water from the electric furnace and continuous caster shop. These facilities have not operated in several years and are not expected to reopen, but the applicant wishes to keep the option available. The effluent limits up to June 30, 1984 are the same as those used in the previous NPDES permit. The limits in effect from July 1, 1984 through expiration are based on BCT and BAT. If production does resume additional treatment will be required to meet the final limits.

302

The discharge consists of 0.042 MGD of barometric condenser water from a vacuum degassing operation. Since this operation is an integral part of the electric furnace and caster shop, it too has been idle for several years. This discharge was not covered in the original NPDES permit. Initially only monitoring is required; after July 1, 1984 effluent limits based on BCT and BAT are imposed. If production does resume treatment will be required to meet the final limits.

Outfall 003

This is the central canal which has an average calculated flow of 84.93 MGD. Tidal effects make obtaining a representative sample from this outfall impossible. All wastewaters entering this outfall are limited at four internal monitoring stations:

103

This is the 68 MGD discharge from the terminal treatment plant. Processes currently contributing wastewater to this plant are the hot rolling mills, acid pickling, cold rolling mills, alkaline cleaning, galvanizing, electroplating, and coke works. The wastewater containing significant concentration of toxic metals (pickling, cold rolling, alkaline cleaning, galvanizing, and electroplating) are collected and treated at the oil interception plant (see monitoring station 403) prior to being sent to the terminal treatment plant. The effluent limits from issuance through June 30, 1984 are the same as those used in the previous NPDES permit. For the period July 1, 1984 through June 30, 1987 the suspended solids and oil & grease limits are based on BCT while the other parameters which relate to the coke wastewater remain unchanged. The effluent limits from July 1, 1987 through expiration are based on BCT. The above dates coincide with the schedule to provide separate treatment of coke wastewater (see discussion under monitoring station 107). It should be noted that DER and EPA have accepted the applicant's request for a net TSS limit for this discharge. The applicant is expected to be in compliance with each set of limits.

203

This discharge consists of 1.0 MGD of treated sewage from the U.S. Steel Corporation STP. The effluent limits are based on secondary treatment, and the discharge is expected to be in compliance.

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### 303

This discharge consists of 3.32 MGD of noncontact cooling water and intermittent slab spray (contact) cooling water. The effluent limits are entirely water quality based, and the discharge is expected to be in compliance.

### 403

Process wastewater containing significant concentrations of toxic metals (listed in 103 above) are treated by lime precipitation at the oil interception plant prior to the terminal treatment plant. This flow averages 2.82 MGD and will be limited for metals at monitoring station 403. The effluent limits, lasting from issuance through expiration, are based on BAT. Tetrachloroethylene and naphthalene are included because of their presence in most cold rolling wastewaters. No data exists on the current discharge concentrations of these organics so compliance may require a toxics reduction plan. The discharge is expected to be in compliance with respect to metals and cyanide.

### Outfall 004

The discharge consists solely of 18.4 MGD of noncontact cooling water from the power house. Effluent limits are for temperature and pH only. The discharge is expected to be in compliance.

### Outfall 005

This discharge consists of 30.32 MGD of cooling and process water from the blast furnaces. Only temperature and pH are limited at the outfall. Process water is limited at an internal monitoring station:

### 105

The blast furnace recycle system blowdown (9.94 MGD) is limited at this location. From issuance through June 30, 1984 the effluent limits are the same as those used in the original NPDES permit. From July 1, 1984 through expiration the limits are based on BCT and BAT. Total residual chlorine is limited under BAT because the EPA model treatment system uses alkaline chlorination for cyanide destruction. The discharge is expected to be in compliance. Most of this wastewater will probably be evaporated on slag.

### Outfall 006

The discharge consists of 0.83 MGD of cooling and process water from the sinter plant. EPA's technology limits for sintering only cover wastewater generated by scrubbers. The sinter plant at Fairless uses dry dust collectors but generates other process waters not covered by EPA guidelines. The effluent limits in

effect from issuance through June 30, 1984 are the same as those used in the original NPDES permit. The final limits are based on DRBC regulations and guidelines (TSS, Temperature, hex chrome, lead), a wasteload allocation (zinc), and DER regulations (Oil & Grease, pH). Mass limits are not used in the final limits because of uncertainty about the flow rate after 1984. Apparently the sinter plant is in need of major repairs, and U.S. Steel has not decided between repair, shut down or rebuild. This decision will determine the post-1984 flow rate. U.S. Steel has proposed diverting wastewater from the sinter plant over to the terminal treatment plant in anticipation of being unable to meet the final suspended solids limit. The diversion is scheduled for completion in October 1985; however, the compliance deadline is July 1, 1984. U.S. Steel has requested a DER-USSC consent order and agreement to extend the deadline to 1985. Such agreement has been prepared by the review engineer and approved by DER's Bureau of Litigation. The agreement will be sent to US Steel with the final permit for signature.

Outfall 007

At present this west canal discharges 41.33 MGD of noncontact cooling water from the open hearth and coke works. Effluent limits are for temperature and pH only. The discharge is expected to be in compliance.

107

Process water from the coke works (approximately 0.68 MGD) currently discharges to the terminal treatment plant where it is diluted by over 100 times with less contaminated wastewater. Continuation of this practice is prohibited in EPA's BAT regulations so the renewed permit will require segregation and separate treatment of coke process water. Monitoring station 107 will require compliance with the BCT and BAT limits by July 1, 1987. The three year extension of the compliance date beyond 1984 is based on our acceptance of U.S. Steel's proposal to use innovative technology. U.S. Steel claims this technology, which omits the costly ammonia distillation equipment of a conventional system, can meet the technology based effluent limits at a lower cost. The permit contains a compliance schedule. Note that only the BAT indicator pollutants (total phenols, benzene, benzo(a)pyrene, and naphthalene) were used to control toxic organics. At this time there is no site specific data on the effluent levels of any of the 129 toxic pollutants in the coke wastewater. Such data should be available in five years for permit reissuance when coke wastewater is segregated and is being properly treated.

Outfall 008

This outfall formerly carried water treatment plant sludges to the river. Such sludges are no longer discharged, and the permit prohibits use of this outfall.

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Outfall 009

This discharge consists solely of 0.11 MGD of noncontact cooling water from the wire mill. Effluent limits are for temperature and pH only. The discharge is expected to be in compliance.

Public notice appeared in the Pennsylvania Bulletin on January 22, 1983. The only comments came from the applicant.

This will be a five year permit.

A Part II permit or amendment will be required to cover the facilities needed to divert the sinter plant discharge to the terminal treatment plant. A Part II permit will be required for the coke wastewater treatment plant.

Other Requirements:

- A. DRBC FSOD Allocation:     87 lbs/day sewage  
                                 2500 lbs/day industrial waste
- B. DRBC BOD<sub>5</sub> zone removal requirement of 88.5%.
- C. DRBC TSS removal requirement of 85%.
- D. Monitoring requirements for intake water to allow calculation of net effluent limits.
- E. Definition of effective disinfection for sewage discharges.
- F. Prohibition of use of chemical additives in cooling water without DER approval.
- G. Effluent limits and monitoring requirements of all Part II permits superseded.
- H. DMR's to DRBC and BCHD.
- I. Thermal criteria and mixing zones. The mixing zones are based on U.S. Steel's thermal study and application for Section 316(a) variance.

ZA845.2

- J. Test procedures for toxic pollutants

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
BUREAU OF WATER QUALITY MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

INDUSTRIAL PERMIT NO. PA 0013463

AMENDMENT NO. 1

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. (the "Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq.,

United States Steel Corporation  
Fairless Works

is authorized to discharge from a facility located at

Falls Township  
Bucks County

to receiving waters named

Delaware River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B, and C hereof.

This permit and the authorization to discharge shall expire at midnight,  
September 28, 1988.

The authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.
2. Failure to comply with the terms or conditions of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
3. Application for renewal of this permit, or notification of intent to cease discharging by the expiration date, must be submitted to the Department at least 180 days prior to the above expiration date (unless permission has been granted by the Department for submission at a later date), using the appropriate NPDES permit application form. In the event that a timely and complete application for renewal has been submitted and the Department is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit will be automatically continued and will remain fully effective and enforceable pending the grant or denial of the application for permit renewal.
4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

PERMIT ISSUED

DATE 3-13-84

BY

Joseph A. Feola

Joseph A. Feola

TITLE

Regional Water Quality Manager



